compact, requiring less than $2\frac{1}{2}$ square feet of floor space. It is of light weight, is portable, and has no moving parts which might cause noise and vibration. The current is turned on and off either by a hand or a floor switch. These portable units may be operated from the ordinary lamp socket without special wiring. As an essential preliminary in the technic, the roentgen-ray operator should wear goggles of smoked glass for about fifteen minutes before the observation is to be made in order that he may have the necessary dark-accommodation and retinal perception. The roentgen-ray unit should be placed as close to the operating table as possible and the rays focussed through a small diaphragm so that they will pass through the delivered kidney on the fluoroscopic screen. When the fluoroscopist is ready to make the roentgenoscopic examination, the hooded screen held in the left hand is placed over the eyes and the goggles are removed and the current is turned on by means of a foot switch. In the right hand is held a sterilized metal-tipped rod 18 inches long with which the fluroscopist accurately points to the stone shadow in the kidney. The exposure is short, requiring little more than a flash and the various details can be arranged so that there is no interference with surgical asepsis.

Etiology of Tubal Pregnancy.—MILLER (*Surg., Gynec. and Obst.,* 1919, xxix, 560) has had a dozen or more cases with a history about as follows: A woman misses her period and not wishing to go through pregnancy, begins after a few days to take drugs to bring on menstruation or to produce an abortion, or perhaps she introduces catheters or other bodies into the uterus. After an interval of a few weeks, she exhibits the signs and symptoms of a tubal pregnancy and operation shows this to be the true condition. The number of such cases which he has had has been so great and the histories so typical that he has been forced to the conclusion that there is a causal relation between the taking of oxytocics, and perhaps the other measures commonly employed in the production of an early abortion, and tubal pregnancy. Although he has no definite or experimental data to confirm such a conclusion, the arguments in its favor can be briefly stated as follows: (1) Impregnation can occur just before a menstrual period. (2) The length of time between the fertilization of the ovum and its implantation in the uterine cavity is generally given as between seven and nine days, but it may be longer. (3) Anything which interferes with the passage of the ovum along the Fallopian tube is recognized as a cause of tubal pregnancy, such as tumors in the uterine wall, chronic salpingitis and torsions of the tube. Ergot and similar drugs produce contractions of the uterine muscle and perhaps of the tube and the introduction of foreign bodies into the uterine cavity likewise produces such contractions. These contractions of the uterus must interfere with the passage of the fertilized ovum down the tube and thus they would tend to the production of a tubal pregnancy. Thus it seems entirely possible to produce a tubal pregnancy in the attempts to bring on an early abortion.

Temporary Sterilization of the Female.—In those cases where it is advisable to produce a temporary sterilization of the female, TURENNE (*Surg., Gynec. and Obst.,* 1919, xxix, 577) of Uruguay has suggested the following operation: After the integrity of the adnexa is established, the broad ligament is held with two hooked forceps in a way to present amply its anterior surface. Ten or 15 millimeters from the lower tubal border and near the ostium he makes a 15 or 20 millimeter incision in the anterior layer of the broad ligament, separates the edges of the incision and hollows out in the cellular space which separates the two layers of the ligament a little pocket sufficient to contain the tubal ostium. The ostium is folded in this pocket and sutured and for greater security it is fixed to the ligament at a separate point near the tube. In this manner the organ retains sufficient mobility, it is not violently kinked and prolonged observation does not show any circulatory disturbance of any sort. With this technic, one can be certain of being able later to do with ease a salpingostomy and to adjust the opening to the ovary.

PATHOLOGY AND BACTERIOLOGY

UNDER THE CHARGE OF
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The Fate of Bacteria Introduced into the Upper Air Passages.—A study of the localization, growth and disposal of microörganisms in the upper respiratory tract may aid materially in the study of the carrier problem, chiefly by indicating that for the development of a carrier state some anatomical anomaly or pathological condition of the upper air passages is a primary requisite. This work which was carried out with cultures of sarcina lutea, may not be directly applicable to virulent organisms. Bloomfield (*Am. Rev. Tbc.*, 1919, iii, 553) employed a culture of sarcina which grew well in symbiosis with the common mouth organisms. The individuals used in the work had only minor abnormalities of the upper air passages, and none showed sarcina in preliminary cultures from the regions studied. He found that sarcina swabbed on the tongue practically disappeared within one hour. In the nose, a heavy inoculation persisted longer, but in only one out of five instances, could the organism be recovered after twenty-four hours. In the tonsillar crypts, the bacteria were no longer found after one hour in two cases out of four, and all four were clear before twenty-four hours. The pharynx was also cultured in the individuals receiving inoculations on the tongue and into the nose. The cultures indicated very little spread of organisms and no persistence in this region. These findings point to the presence of an effective mechanism for the disposal of organisms in the upper air passages. The author next gave his attention to the study of this protective mechanism. The lachrymal secretion he considers in no way bactericidal. In the nasal passages, the secretion is scanty, but here the backward sweeping of the ciliated epithelium is to be considered as well as the peculiar structure of these air passages, and the author believes that other than just